



The Bottom Line

Achieving sustainable competitive advantage through green entrepreneurial orientation and market orientation: The role of inter-organizational learning
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Article information:

To cite this document:

Aluisius Hery Pratono, Noviaty Kresna Darmasetiawan, Ananta Yudianto, Bok Gyo Jeong, (2019) "Achieving sustainable competitive advantage through green entrepreneurial orientation and market orientation: The role of inter-organizational learning", The Bottom Line, <https://doi.org/10.1108/BL-10-2018-0045>

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Achieving sustainable competitive advantage through green entrepreneurial orientation and market orientation

Sustainable
competitive
advantage

The role of inter-organizational learning

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Abstract

Purpose – This paper aims to examine the role of the inter-organizational learning contributing in transforming the green entrepreneurial orientation and market orientation to the improvement of sustainable competitive advantages.

Design/methodology/approach – The structural equation model was established to explain the complex relationship between green entrepreneurial orientation, market orientation and sustainable competitive advantage. To test the hypothesis, this study used partial least square with data from a survey of 280 firms.

Findings – There is a strong tendency that the inter-organizational learning plays a pivotal role as an intervening variable that operates by receiving the input from green entrepreneurial orientation and market orientation, which plays as the exogenous construct. Hence, the greater inter-organizational learning leads the firms to achieve the greater sustainable competitive advantage.

Originality/value – This study extends the discussion on how organization should contribute to the well-being of the economic, social and environmental system by investigating the role of inter-organizational learning in achieving the sustainable competitive advantage.

Keywords Indonesia, Market orientation, Green entrepreneurial orientation, Sustainable competitive advantage, Inter-organizational learning, Small and medium enterprise

Paper type Research paper

Introduction

The initiative to promote green entrepreneurial orientation, which involves green innovations, a proactiveness to capture potential opportunities and risk-taking behaviour helps firms to bring positive impacts on their performance (Jiang *et al.*, 2018). The green initiative requires market-orientation strategy that becomes ingredient to learning organization (Kumar *et al.*, 2011), which pertains the exchange of relevant knowledge and information between partners, which in turn implies on the increasing life cycle data quality to increase the accuracy, precision and completeness of data quality (Baldasari *et al.*, 2016). This entails the stakeholders' involvement, including the buyers and suppliers, to share the



right information and develop the capacity to learn their dynamic value network (Cameli *et al.*, 2016). Learning from diverse types of alliance partners stimulates the firms to adopt the responsive market orientation approach to satisfy customer needs (Ozdemir *et al.*, 2017).

The firms can believe the role of market orientation, but they may experience a shortage of the ability to achieve the expected performance through market orientation (Ho *et al.*, 2017). They may fail to gain benefit from marketing orientation due to lack of competitive differentiation, satisfaction with the status quo and an unclear view of customers (Jogarathnam, 2017). The gap between consumer environmental awareness and consumer behaviour may occur when much attention on the green innovation sustainability consumers is followed by consumers' price sensitivity for green purchase. (Jiang *et al.*, 2018). The various levels of the impact of entrepreneurial orientation on firms' sustainable competitive advantage require further investigation, which may involve a mediation variable to explain the complex relationship (Lee and Chu, 2017).

This study aims to examine the role of the inter-organizational learning contributes in transforming the green entrepreneurial orientation and market orientation to the improvement of sustainable competitive advantages. The structural equation was developed to explain the complicated relationship between green entrepreneurial orientation, market orientation and sustainable competitive advantage.

Literature review

Sustainable competitive advantage

Competitive advantage refers to firms' capability to achieve the greater performance than their competitors (Porter, 1998). In highly dynamic environments, firms need the experience-based adaptation to create a competitive advantage (Schilke, 2014). When the complex market environment changes rapidly and competitive advantages are characteristically unsustainable, the entrepreneurial resource is acknowledged as a useful construct to understand the capability of firms to achieve great performance trajectories while others fail (Covin and Lumpkin, 2011).

Sustainable competitive advantage refers to value creation in which a firm pursues high innovation by driving market competition (Kuncoro and Suriani, 2018). However, inter-organizational learning may fail from marketing orientation due to lack of competitive differentiation, satisfaction with the status quo and asymmetric information of customers (Jogarathnam, 2017). Firms may believe the role of market orientation, but in practice, they may experience a lack of ability to achieve the targeted performance through market orientation (Ho *et al.*, 2017).

Learning organization. The learning organizations concern to improve the communities of learning to enhance the learning process and develop learning capability with aims of improving the organizational practice (Rupčić, 2017). This encompasses action learning to generate innovative action, which becomes a part of the process of improvement, whether continuous or major overhaul and involves professional industrial system (Parnaby and Towill, 2012). This does not only require integration between the existing knowledge and new information acquired from the partners (Schilke, 2014) but also the management control system to make sure the generated value will be distributed equitably (Lu *et al.*, 2017).

Inter-organizational learning reflects the designed routine activities with aim of promoting knowledge transfers across organizational boundaries (Schilke, 2014), which involves two or more organizations with a specific organization mechanism (Eiriz *et al.*, 2017). Along with a support from external partners, the inter-organizational learning allows knowledge and innovation to be tested and refined (van Winkelen, 2010).

The benefit of learning from RandD outsourcing to innovate products is outweighed by the firms' capability. Incorporating ideas and technologies from outsourced RandD may have diminishing innovation benefit as the result of firms' learning capability (Un and Rodríguez, 2017). Firms can generate the innovative ideas from learning opportunities across the organization in different functions whether in the RandD or another division. In fact, there are various mechanisms for developing learning at each level of organizations that indicates the importance of non-RandD units as another source of innovation (Lee and Walsh, 2016).

The low quality of RandD outputs and poor interactions may bring low levels of satisfaction of the RandD relationships (Einola *et al.*, 2017). The process in organizational learning is predominantly related to the entrepreneurial culture (van Winkelen, 2010), which may vary depending on types of the group collectivism, social networks and informal elements (Saeed *et al.*, 2014). The collective goal formation in business networks allows network-level value creation that leads to committing sharing resources (Matinheikki *et al.*, 2017).

Hypothesis development

Green entrepreneurial orientation has a positive impact on firm performance (Jiang *et al.*, 2018). Green entrepreneurial orientation (GEO) consists of firm behaviour at risk-taking, innovative, competitive aggressiveness and autonomy (Covin and Miller, 2014). Product innovation is the main element of entrepreneurial orientation, which positively influences sustainable competitive advantage by involving networks and partnership (Pratono, 2018).

Entrepreneurial behaviour allows firms to gain valuable knowledge from the network to identify business opportunities (Song *et al.*, 2017). Small firms use external knowledge to deal with their limited resources may bear risks that springs from the financial failure of green innovation (Arfi *et al.*, 2018). In a very competitive market where small businesses operate, tradition barrier-to-entry variables such as RandD and patents may not dampen the firms' competitive advantage (Maury, 2018):

H1. Green entrepreneurial orientation has a positive impact on sustainable competitive advantage.

Firms with strong green entrepreneurial orientation (GEO) have a great intention to become a learning organisation by creating a culture that facilitates external exchange and transfer the acquisition of environmental knowledge (Arfi *et al.*, 2018). GEO has a contribution to enhance the learning organization through knowledge creation and knowledge sharing (Sirén *et al.*, 2017). The GEO is essential for the inter-organizational partnership that is aligned with the sustainability orientation (DiVito and Bohnsack, 2017).

Firms with strong EO do not only concern on their efforts to enhance their networks but also allocate more valuable resources (Ruiz-Ortega *et al.*, 2017) that leads the firms to gain benefits from the inter-organizational learning with various degrees of inter-organization knowledge transfer (Zhu *et al.*, 2018). Assessing a complementary resource and engaging in inter-organizational learning allows the firms to spread the risk of innovation (Pouwels and Koster, 2017). The type of learning organization influences the firm performance (Zhou *et al.*, 2015). Relationship conflict may spring from the product development and technology interdependence, which implies on value creation of inter-organizational collaboration (Yan and Wagner, 2017):

H2. Green entrepreneurial orientation has a positive impact on learning organization.

Corporate environmental strategy by promoting green marketing has positive relationship with competitive advantage (Papadas *et al.*, 2018). Market-oriented firms can gain benefit from positive impact on competitive advantage by integrating their sustainability activities into their business strategies (Pantouvakis *et al.*, 2017). The collaboration between two organizations or more is believed to foster the organizational learning and knowledge (Eiriz *et al.*, 2017), which leads firms to generate economic value from going partnership with other organizations (Pouwels and Koster, 2017). This demonstrates the firm capability to leverage the knowledge as a valuable resource that brought to the firms (van Winkelen, 2010). The knowledge absorptive capability is essential for inter-organizational learning, which encourages the firms to acquire, assimilate and apply the external knowledge (Omidvar *et al.*, 2017).

Market orientation is associated with obtaining, sharing and responding to market information to create superior value for customers (Herrero *et al.*, 2018). As market orientation allows firms to respond the market intelligence pertaining to customers need (Morgan *et al.*, 2009), firms get feedback from customers that play a pivotal role to enhance research and development (Gupta and Polonsky, 2014). Marketing orientation is a source of competitive advantage, which brings positive impact on firm performance (Morgan *et al.*, 2009). Firms that take the first initiative to develop a market orientation achieve greater performance than the followers (Kumar *et al.*, 2011):

H3. Market orientation has a positive impact on sustainable competitive advantage.

Firms with a market orientation have a strong intention to learn from the external knowledge and integrate the external knowledge with the existing knowledge (Raj and Srivastava, 2016). Partners with similar knowledge enhance the possibility to absorb the knowledge in alliance relationships (Ozdemir *et al.*, 2017). The long-term commitment in green marketing initiatives brings a positive impact on competitiveness and profitability, it could also become a strategic business tool to promote sustainable competitive advantage (Papadas *et al.*, 2018).

Allocating resources in the development and acquisition of new skills makeup to RandD employees to have the capability to effectively absorb and deploy local knowledge relevant to future innovation (Martinez *et al.*, 2017). Firm capability for absorbing and assimilating the knowledge from the partners is essential to understand the relationship between market orientation and firm performance (Najafi-Tavani *et al.*, 2016). Firms with a strong market orientation have a capability to develop the practices that support the product development to meet the customers' demands (Bamgbade *et al.*, 2017). The integrated effort by multiple players to develop and maintain a strong market-oriented culture is essential to accomplish the superior performance (Pantouvakis *et al.*, 2017):

H4. Market orientation has a positive impact on learning organization.

Knowledge has been considered as a strategic resource, which needs to be managed to promote the sustainable competitive advantage by promoting knowledge creation, acquisition and knowledge transfer (Mahdi *et al.*, 2018). Organizations looking for performance gains should consider devoting a significant amount of effort to improve employee learning and sharing behaviours (Arfi *et al.*, 2018). Previous studies argue that there is a positive relationship between the organizational learning dimensions and firm performance (Zhou *et al.*, 2015; Jain and Moreno, 2015).

Green innovation has a positive impact on performance along with collaboration networks and the platforms they provide for real actions (Huang *et al.*, 2016). The capability of RandD human capital plays a pivotal role as a pathway to capture valuable resources

from partner diversity (Martinez *et al.*, 2017). Firm performance has been acknowledged as a primary driver of inter-organizational collaboration for the learning organization, however, not all collaboration provides successful evidence and equal benefits to all participants (Yan and Wagner, 2017):

Sustainable competitive advantage

H5. Learning organization has a positive impact on sustainable competitive advantage.

Research method

To answer the research question, the structural equation model was proposed to explain the effect of entrepreneurial orientation and market orientation on inter-organizational learning, which in turn influencing the firm competitive advantage. The measures were adapted from the previous literature, while the data were collected from the firms that rely on the RandD partnership to foster the competitive advantage.

The measures

The model has four constructs, i.e. entrepreneurial orientation, market orientation, inter-organizational learning and firm competitive advantage. The measures used the seven-point Likert scale with the seven categories; from (1) strongly disagree to (7) strongly agree. The measures were adapted from the previous studies (Table I).

Latent variables	No. of items	Representative items
Entrepreneurial orientation – EO (Covin and Miller, 2014; Jiang <i>et al.</i> , 2018)	32	Our firm emphasizes RandD on green technological leadership and green innovation In dealing with competition, our firm typically initiates green movement to which competitors then respond Our firm is very often the first business to introduce new green products or services, green administrative techniques, and operating green technologies Our firm puts together environment-friendly team of the 'right' people to identify market trend
Market orientation – MO (Jaworski and Kohli, 1993; Kumar <i>et al.</i> , 2011)	18	We periodically review the likely effect of changes in our business environment on customers We have inter-departmental meeting at least once a quarter to discuss market trends and developments It takes us forever to decide how to respond to our competitor's price changes
Inter-organizational learning – IOL (Schilke, 2014)	12	We have the capability to learn from our RandD alliance portfolio We have the managerial competence to absorb new knowledge from our RandD alliance partners We have adequate routines to analyse the information obtained from our RandD alliance partners We can successfully integrate our existing knowledge with new information acquired from our RandD alliance partners
Sustainable competitive advantage – SCA (Schilke, 2014; de Guimarões <i>et al.</i> , 2018)	6	We have gained strategic advantages over our competitors Our new products are offered respecting the entrepreneurial social responsibility percepts Our new products incorporate knowledge and concepts of environmental sustainability

Table I.
The measures

The measure of inter-organizational learning was adapted from [Schilke \(2014\)](#). Using a scale 1 to 7 (totally disagree to fully agree), respondents evaluated the following statements: “[The firm] has a capability to learn from RandD alliance portfolio”, “[The firm] has the managerial competence to absorb new knowledge from the RandD alliance partners”, “[The firm] has adequate routines to analyse the information obtained from our RandD alliance partners”, “[The firm] can successfully integrate our existing knowledge with new information acquired from our RandD alliance partners”.

Entrepreneurial orientation and market orientation were asked with respect to the respondents’ perception of their firms. The measures of entrepreneurial orientation were adapted from Lumpkin (2009), while the measures of market orientation were adapted from [Kumar et al. \(2011\)](#). Initially, there were [...] items. After the removal of the insignificant variables, the single-regression outer loadings result with four indicators in the EO measurement models and three indicators of MO.

The indicators of MO involve “[The firm] reviews the likely effect of changes in the business environment on customers”, “inter-departmental meeting at least once a quarter to discuss market trends and developments”, and “[...] to respond competitor’s price changes” ([Kumar et al., 2011](#)). The remain indicators of EO includes “[...] emphasizes RandD, technological leadership, and innovation”, “initiates actions to which competitors then respond”, “[...] introduce new products or services, administrative techniques, and operating technologies”, “puts together a team of the “right “people to identify market trend”.

The measures of competitive were adapted from [Schilke \(2014\)](#). The first measure points out that “[firm has] gained strategic advantages over our competitors”. The second measure concerns the market share. Another measure indicates that “ROI (return on investment) is continuously above industry average”.

Data collection

This study used primary data that was obtained from a survey. The targeted population is manufacture industry in which the Indonesian Ministry of Trade and Industry provided the database of the industry. Based on the database, the questionnaire distribution involved some surveyors to get confirmation from the respondents whether the firms organized the inter-organizational collaboration at research and development. To get data objectivity, the data collection relied on self-administrative respond in which the surveyors did not get involved in filling the questionnaires. After data screening, the final data set had 280 responses (sample size), which comes from managers who were voluntary to describe their organization.

Analysis

To test the hypothesis, this study relies on PLS-SEM that used the collected primary data to estimate the path relationship. The path model was developed based on the previous literature, which argues that latent variables are related to each other. The GEO and MO on the left side of the path model are believed to be the main determinants of firm competitive advantage. The IOL serves as a mediation variable in support of the relationship between the independent variables (GEO and MO) and firm competitive advantage.

The examination of moderating variable aims to explain the relationship in terms of the mediating variable that operates by receiving the input from the independent variables, which play as exogenous constructs and translating them into the firm competitive advantage as output. If a respondent perceives a firm to be highly entrepreneurial orientation, this assessment leads to higher inter-organizational learning and ultimately increases the competitive advantage.

The SmartPLS 3.0 was used to execute the structural equation model. The algorithm estimates the path coefficients and other model parameters in a way that maximizes the explained variance of the dependent construct. The first step, the construct scores are estimated. Then, the final estimates of the outer loadings are calculated as well as the structural model's path coefficients, which resulting R^2 values of the endogenous latent variables.

Findings

Table II provides the descriptive statistics of the observed respondents. The marketing orientation is considered the highest average value of 5.35, followed by the entrepreneurial orientation with the average value of 5.177. Apparently, the observed respondents have a value of the inter-organizational learning is nearly similar to the firm competitive advantage, which is around 5.035. However, the competitive advantage has the highest level of standard deviation, followed by the inter-organizational learning.

The Smart PLS provides three main results: the outer loadings for the measurement models, the path coefficients for the structural model, and the R^2 values of the latent variables. Assessment of the measurement models also involves composite reliability to examine the internal consistency, individual indicator reliability and average variance extracted to examine the convergent validity.

The first step focuses to confirm the construct measures are valid and reliable. Hypothesis tests involving the structural relationships among construct will be reliable if the measurement models explaining how the constructs meet the validity and reliability standard. The Cronbach's alpha shows that latent variables have greater values than 0.7, which indicates a high reliability based on the inter-correlated of the observed indicator variables. The values of composite reliability test are greater than 0.8, which indicates that high level of reliability and regarded as satisfactory.

To establish convergent validity, this study considers the average variance extracted and the outer loadings. The results show the standardized outer loadings are greater than 0.708, which indicates the accepted communality level (see Appendix). The AVE values are 0.5 and greater, which indicates accepted communality level. The values show that the constructs explain more than half of the variance of the indicators (Table II).

The second step addresses the assessment of the structural model results. Prior to the analysis, it is essential to identify the multicollinearity problem. Table III shows that the VIF values of the constructs are below the threshold of 5, which indicates that collinearity among

Table II.
Validity and
reliability test

Latent variables	Cronbach's alpha	rho_A	Composite reliability	Average variance extracted (AVE)
GEO	0.771	0.78	0.852	0.591
IOL	0.919	0.924	0.936	0.710
MO	0.703	0.723	0.832	0.623
SCA	0.894	0.896	0.935	0.827

Table III.
VIF

Multi-collinearity test

	IOL	CA
IOL		2.071
GEO	1.529	1.926
MO	1.529	1.810

BL

the constructs is not an issue at the structure model. Hence, Figure 1 offers an explanation that the R^2 value of firm competitive advantage is 0.550, which indicates that all exogenous latent variables' combined effects on the competitive advantage. The combined effect of both GEO and MO on inter-organizational learning is 0.487. The R^2 values show a moderate level of predictive accuracy.

Table IV shows that the PLS-SEM bootstrapping provides evidence that t -values for each construct are larger than the critical values, which indicates that all coefficients are significant at the level of 5 per cent. PLS-SEM algorithm shows the hypothesized relationships among the constructs. The path coefficients close to +1 represent strong positive relationship (Figure 1). The results show that the coefficients varied from 0.277 to 0.481.

Table IV shows that the GEO has significant effects on sustainable competitive advantage (t -values of 5.104) and inter-organizational learning (t -values of 3.654). This indicates that $H1$

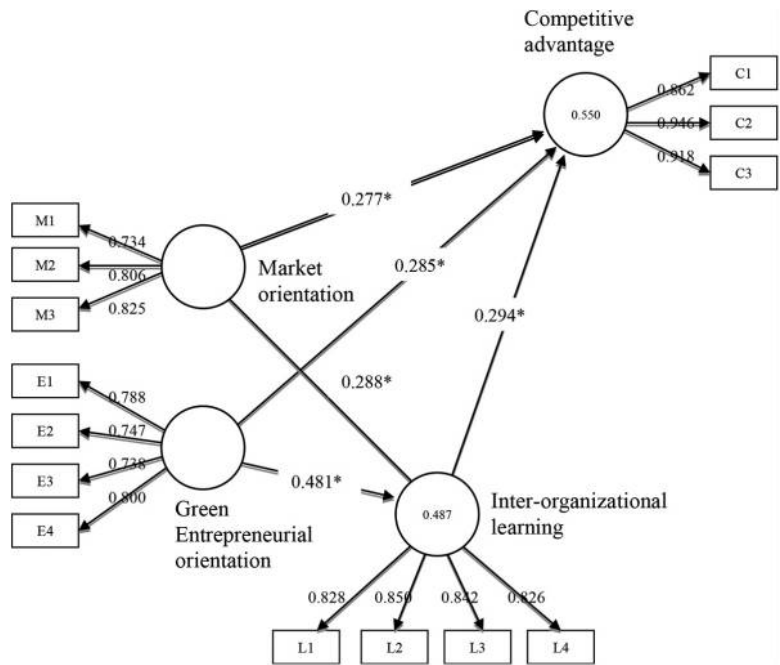


Figure 1.
Path analysis

Table IV.
Path analysis

Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)
GEO → IOL**	0.481	0.483	0.094	5.104
GEO → SCA**	0.285	0.29	0.078	3.654
IOL → SCA**	0.294	0.277	0.117	2.520
MO → IOL**	0.288	0.292	0.119	2.415
MO → SCA**	0.277	0.289	0.096	2.880

Note: **Significant at alpha 1%

and *H2* are acceptable. The result indicates higher GEO implies on higher competitive advantage, which confirms the previous study (Jiang *et al.*, 2018).

The inter-organizational learning also significantly affects the firm competitive advantage (*t*-values of 2.520). Thereby, the indirect relationship via the IOL mediator affects the transformation process from GEO to sustainable competitive advantage in the mediator model.

Extending the model with the inter-organizational learning, this study finds a more reasonable explanation on the complex relationship between entrepreneurial orientation and firm competitive advantage. The firm competitive advantage is affected by the inter-organizational learning, which in turn can be explained by the green entrepreneurial orientation.

Table IV shows the impact of MO on firm competitive advantage has *t*-values of 2.88, while the impact of MO on IOL has *t*-values of 2.415. The values indicate the relationships are significant at a 5 per cent level. This indicates that *H3* and *H4* are accepted. Looking at the coefficients of the driver constructs for the inter-organizational learning (IOL), it appears that entrepreneurial orientation (EO) has the higher coefficient than market orientation (MO). This indicates that EO is a more important factor that determines the inter-organizational learning than market orientation (MO).

Discussion

There is a strong tendency at the empirical study that the inter-organizational learning plays as an intervening variable that operates by receiving the input from green entrepreneurial orientation, which plays as the exogenous construct. The survey indicates that if a respondent perceives a firm to be great entrepreneurial orientation, this assessment leads to higher inter-organizational learning and positively affects the firms' sustainable competitive advantage. This finding supports the previous work, which argues that the initiative to promote green entrepreneurial orientation allows firms to achieve sustainable competitive (Jiang *et al.*, 2018) by involving organizational learning process (van Winkelen, 2010). This results also confirms that that entrepreneurial orientation helps the firm to develop knowledge creation and knowledge sharing (Sirén *et al.*, 2017) from their networks to identify business opportunities (Song *et al.*, 2017).

Second, this study broadly supports the view that inter-organizational learning strengthens the impact of market orientation on the firm competitive advantage as the expected outcome. If a firm is considered to be high market orientation, this leads greater inter-organizational learning, which in turn increases the firm competitive advantage. This result support from the previous work by providing an argument that inter-organizational learning is essential to explain the relationship between market orientation and firm competitive advantage (Najafi-Tavani *et al.*, 2016) through supporting the product development to meet the customers' demands (Bamgbade *et al.*, 2017).

This study suggests the firms set challenging learning goals and targeted competitive advantage. With a specific goal of the learning organization, firms can identify opportunities to make progress toward it. For some organization, the targeted competitive advantage may become more persuasive or to be more approachable. These could include a new project, an international partnership, a job rotation or simply striving to approach routine encounters in a fundamentally different way.

Managerial implication

It is advisable that firms should give a look at the impediment as meaning that they have not yet developed the required entrepreneurial orientation and market orientation, rather than cutting the task off. The bottom line is that the management should be in the learning mode to enhance the impact of the entrepreneurial orientation and market orientation on firm

competitive advantage by introducing inter-organizational learning. Along with construing mistakes as potential learning opportunities, the firms can develop their inter-organizational learning to anticipate, respond to, and continually learn from the business partners.

RandD education is essential to develop the internal mechanism to capture value from inter-organizational learning (Martinez *et al.*, 2017). The investment in RandD and broad strategic plans need to be taken into account towards the inter-organizational learning to harness external knowledge assets. Organizations need to promote that message by educating their employees about the research on entrepreneurial orientation and relaying stories on high-performing staffs who are dedicated to developing the skills over time. When staffs are taught the concept of entrepreneurial orientation and inter-organizational learning, they are expected to become more opportunities aware for self-improvement, more willing to embrace challenges on how to generate innovation and more likely to confront the obstacles.

Limitation and future research directions

The conclusion of this study was derived from the data set at the manufacturing industry in Indonesia. To generalize the result, it needs to be replicated with other industries in various contexts. The information was gathered from the managers and owner-managers that each represents one organization. This study urges the future researchers to explore more valuable information by interviewing various stakeholders, who contribute to the value creation at inter-organizational learning.

Second, this study considered the economic value. There is an opportunity to explore other values, e.g. social value, that springs from learning organization. When firms allocate resources to the inter-organizational learning, it is natural that they expect to fit in. As trust is main element to promote social networks with a strong influence on firm performance (Pratono, 2018), future studies are advised to identify both parties to understand the challenges to learning.

Third, this study provides evidence that there are tangible benefits to be gained from inter-organizational learning. As a result, firms may allocate their valuable resources to learn from partners. However, doing so limits what we bring to the organization. As firms believe to stay competitive, to learn and to improve every day, future studies are encouraged to identify the limitation to practice what they preach.

Conclusion

In conclusion, this study extends the works on the learning organizations by identifying the antecedents of inter-organizational learning. In addition, the model also demonstrates that the inter-organizational learning provides positive mediating effects on the relationship between entrepreneurial orientation, marketing orientation and firm competitive advantage. The results provide evidence that inter-organizational learning not only is a valuable resource for the competitive advantage but also helps the firm to capitalize the entrepreneurial orientation and market orientation into the competitive advantage.

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Appendix

	Code	GEO	IOL	MO	SCA
	L1		0.828		
	L2		0.85		
	L3		0.842		
	L4		0.826		
	E1	0.788			
	E2	0.747			
	E2	0.738			
	E4	0.800			
	M1			0.734	
	M2			0.806	
	M3			0.825	
	C1				0.862
	C2				0.946
	C3				0.918

Table AI.

Outer loading

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